

WHAT IS CLAIMED IS:

1. A method for monitoring performance of a storage device, comprising:
intercepting communications between a computer system and said storage device;
analyzing said intercepted communications relative to a threshold
5 value for the performance of said storage device; and
responding to a decline in the performance of said storage device
based on said analyzed intercepted communications.
2. A method as in claim 1, further comprising measuring access time for
said storage device.
3. A method as in claim 2, further comprising correcting said measured
access time for system overhead.
4. A method as in claim 1, wherein intercepting said communications
comprises intercepting an error reported by said storage device.
5. A method as in claim 1, further comprising determining an access
location on said storage device and an access frequency for data
stored thereon, based on said intercepted communications.
6. A method as in claim 1, further comprising determining an access
location on said storage device and an access duration for data stored
thereon, based on said intercepted communications.
7. A method as in claim 1, further comprising logging said
communications over time.
8. A method as in claim 7, wherein analyzing said communications
comprises deriving said threshold value based on said logged
communications.

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9. A method as in claim 1, wherein responding to said declining performance of said storage device comprises automatically backing-up data stored on said storage device.
10. A method as in claim 1, wherein responding to said declining performance of said storage device comprises reallocating at least some data on said storage device.
11. A method as in claim 10, wherein reallocating at least some data on said storage device is based on usage patterns of said data.
12. A method as in claim 1, wherein responding to said declining performance of said storage device comprises defragmenting at least a portion of said storage device.
13. An apparatus for monitoring performance of a storage device, comprising:
computer readable storage media;
computer readable program code stored on said computer readable storage media, comprising:
 - 5 a) program code for intercepting communications between a computer system and a said storage device;
 - b) program code for analyzing said communications, wherein said communications are compared to a predicted failure of said storage device; and
 - c) program code for responding to a decline in the performance of said storage device prior to said predicted failure thereof.
- 10 14. An apparatus as in claim 13, wherein said program code for intercepting said communications comprises program code for intercepting an error reported by said storage device.

15. An apparatus as in claim 13, further comprising program code for measuring access time for said storage device, and wherein said communications comprises at least said access time.
16. An apparatus as in claim 15, further comprising:
 - a) program code for determining system overhead; and
 - b) program code for correcting said access time for said system overhead.
17. An apparatus as in claim 13, wherein said program code for responding to said decline in the performance of said storage device comprises defragmenting at least a portion of said storage device based on said communications.
18. An apparatus as in claim 13, further comprising:
 - a communications log;
 - program code for logging said communications over time in said communications log; and

5 program code for determining said predicted failure of said storage device based at least in part on said logged communications.
19. An apparatus as in claim 13, further comprising program code for deriving a threshold value for the performance of said storage device, wherein said program code for responding to said decline in the performance of said storage device responds when the performance of said storage device satisfies said threshold value thereof.
20. An apparatus as in claim 13, wherein said program code for responding comprises program code for backing-up data from said storage device.

21. An apparatus as in claim 13, wherein said program code for responding comprises program code for reallocating data to another sector of said storage device.

22. An apparatus as in claim 21, wherein said program code for reallocating reallocates at least some data on said storage device based on usage patterns of said at least some data.

23. An apparatus as in claim 13, further comprising a graphical user interface for reporting the performance of said storage device to a user.

24. An apparatus for monitoring performance of a storage device, comprising:
means for evaluating communications between a computer system and said storage device to determine the performance of said storage device based at least in part on intercepted communications with said storage device; and
means for responding to a decline in the performance of said storage device prior to a predicted failure thereof.

5 25. An apparatus as in claim 24, further comprising means for intercepting communications with said storage device.

26. An apparatus as in claim 24, further comprising means for measuring time to access said storage device, wherein said measured access time is evaluated to determine the performance of said storage device.

27. An apparatus as in claim 24, wherein said means for responding to said decline in performance of said storage device comprises means for reallocating data thereon.

28. A method for monitoring performance of a storage device, comprising:

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intercepting communications between a computer system and said storage device;

analyzing said intercepted communications; and

5 reallocating at least some of said data on said storage device to enhance the performance of said storage device based on said analyzed communications.

29. A method as in claim 28, wherein intercepting said communications comprises determining access location, access frequency, and access duration for said data on said storage device.